Autism Center for Excellence

VCU
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Augmentative and Alternative Communication System: Feature Analysis for Determination of an AAC System

Guidance Document

Selecting an appropriate AAC system or systems is never an easy task. There are many systems that provide an array of features. When selecting a system(s) it is important to make the best decision possible that will allow the individual to actively communicate across environments in a meaningful way. However, it is equally as important to ensure a decision is made expeditiously so the individual has an effective way to communicate as quickly as possible.

The purpose of the AAC Feature Analysis is to help educational teams think through considerations that may impact the system selected and to identify those systems that appropriately address these considerations. Of course, the primary concern is ensuring an appropriate match to the person in need of a communication system, but secondarily, a match must also be made to the team responsible for its implementation.

Description

The AAC Feature Analysis has two tables: Student Considerations and Team Considerations. Both charts are to be reviewed and considered. The charts are color coded to help make the process easier.

Green = Key considerations the team is to review and consider for <u>any</u> student
Red = Ancillary considerations the team may review for <u>some</u> students
Orange = Distinctive considerations the team may review for <u>some</u> students with unique needs

The Feature Analysis is not designed to be a lengthy, laborious process. It is recommended, when AAC is being determined, every team member reviews the considerations independently and identifies the considerations they believe to be critical. The team members can then discuss the considerations identified as a group and determine those most critical.

Student Considerations and AAC Feature Analysis

To BEGIN, each team member is to independently review each student consideration moving from the top of the table to the bottom. Each consideration in the RED section is to be reviewed. The team member will determine whether to review the RED and ORANGE sections.

- Read each consideration. As you read each, it may be helpful to begin with the phrase, "My student needs a system that _____." This can help the team to ensure the student and his/her needs are always carefully considered.

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- Highlight the considerations that reflect the student's strengths and needs that WILL IMPACT the AAC system selected. This requires careful consideration and for the team to really determine the TRUE needs of the student.

- In the event the team member is selecting the majority of the considerations, it may be necessary to prioritize the student's strengths and needs. Do this by listing the top 3-5 needs of the student that must be addressed with an AAC system. Next, list the top 3-5 strengths of the student that can be used to help the student to learn a new communication system.

Below are the categories of considerations with a brief description of each:

- **Symbols currently recognized** – The AAC system selected should utilize the symbols the student currently recognizes. The system is to be able to be used immediately; therefore, current recognition is critical. For example, a student who is unable to discriminate picture representations/drawings may first benefit from a system that utilizes real pictures. A student who is unable to discriminate real pictures and picture representations/drawings may first benefit from a system using object exchange.

- **Features to accommodate learning abilities/needs** – There are many considerations to think about when it comes to learning abilities and needs. First, the AAC system selected needs to be easy to learn. If it is not, it will likely not be used! For those just learning to communicate or those who initially communicate few messages (this is the learner who may not have many desired items/activities), providing a limited number of icons per page is an important consideration. These learners may also benefit from using motor planning to access icons (the icons are always in the same location on the device so the student can repeat the motor steps to access the icon).

  Additionally, the student needs to be able to communicate as effectively and efficiently as possible. For students who are more advanced communicators, or may quickly become advanced communicators, it will be important to think about how easy it is for the student to communicate a message and to create new messages. Voice output is another feature that may help the student communicate more effectively. Voice output may be of particular importance for those who may not readily learn to approach a communication partner, those who will interact with peers, and even those who will be communicating complex messages.

- **Features to accommodate typing** – Some students with ASD will use typing to communicate messages. As noted above, a system must allow the student to communicate as effectively and efficiently as possible given his/her abilities. Features such as grammar support and word prediction can often expedite typing and help the student create novel messages.

- **Features to accommodate usability** – There are many features that will impact how much the student does or does not use the system. This can involve features that embellish the system and make it more stylish or trendy. This can involve features that will allow the student to use the system for a variety of communicative functions such as texting and emailing. Additionally, this can involve features that will help the student to use the system more effectively.

  It is important to remember, while these features may be of tremendous benefit to some students, they may provide distraction to others. The goal is to have a system for communication. Some students may be distracted by voice output and push buttons repeatedly simply to engage in repetitive behavior. Others may be distracted by a system that allows videos to be played or games to be accessed.

- **Features to accommodate gross motor difficulties** – An AAC system must travel with the student to every environment where he/she participates. Consider how the system will be transported. The size, weight and available carrying options are all factors. Further, the well-being of the system and its durability may be critical for those who may be inclined to drop or even throw it.

- **Features to accommodate fine motor difficulties** – Fine motor difficulties are common in students with ASD, making features such as providing a stylus or adjusting font/icon size important. Even systems that require a person to press or swipe may be a challenge, requiring a system that can be engaged using a light touch or a full hand touch.

- **Features to accommodate hearing difficulties** – Communication requires both receptive and expressive communication. For a student with a hearing impairment, it will be important to ensure the system will assist the student in not only relaying messages to others expressively, but also understanding the communication of others. Factors to account for hearing difficulties such as volume adjustment and headphones may be beneficial.

- **Features to accommodate vision difficulties** – In the event the student has a vision impairment, the system must provide features that will allow the student to be able to express him/herself. For example, brailled text, zoom magnification, auditory scanning, or tactual features may be needed.

Team Considerations and AAC Feature Analysis

AFTER carefully reviewing the student considerations, NEXT, review and discuss the team considerations by moving from the top of the table to the bottom. This entire section is to be reviewed.

- Read each consideration. As you read each, it may be helpful to begin with the phrase, "The team needs to think about whether the device _____." This can help the team to ensure the student and the team's needs are always carefully considered.

- Highlight the considerations that reflect the team's strengths, needs, and resources and WILL impact the AAC system selected. Again, this takes careful consideration to identify issues related to system maintenance and resources. While the student's needs are always the primary concern and ultimately impact the system chosen, it is critical for the AAC chosen to be available in a reasonable amount of time and for the team to be able to use it quickly and effectively with the student.

Below are the categories of considerations with a brief description of each:

- **System maintenance considerations** – Any AAC system selected will require a certain level of maintenance and upkeep. For example, an exchange system will require a team member to create new objects or icons as the student is learning. An icon exchange will often require a colored printer and perhaps a way to laminate. Conversely, electronic systems will require programming. Some systems are quite complex in the programming and may require a person who is savvy and readily available to ensure the person can communicate at all times. The ability of the team to effectively maintain a system is a serious consideration.

  For electronic systems, other considerations concern the operating system, battery life, as well as durability. It will be important to ensure such a system has a good warranty and the option for repair service.

- **Resource considerations** – While resources are never a popular topic to discuss, it will be necessary to do so when choosing an AAC system. The team will need to determine if the benefit of a system that is costly warrants the cost and truly provides an option that is better than those less costly. Often, there will be multiple systems that will meet the needs of the student; therefore, this must be considered carefully.

  Since it is critical for the student to begin communicating right away, the discussion regarding resources will also need to include the amount of time it may involve to access the system. Time is always of the essence, therefore, a system should be selected that can be obtained and implemented within a reasonable amount of time. Considerations can include not only the amount of time needed to obtain a system, but time involved in training adults to use it.

AAC Selection and Types of Systems

Once the student and team considerations are identified, review the AAC systems that may be appropriate for the student. Several systems may come to light. It will be the team's responsibility to use this list to make an appropriate selection.

The AAC Feature Analysis breaks down AAC systems into 6 distinct categories. Below are description and examples of the categories.

Communication System	Description	Example
Object Exchange	Use of objects or object miniatures to request the item/object/action. This can be used for learners who are not yet able to use picture symbols. Student "exchanges" or hands the object or object miniature to another person to convey message. Student hands the object or object miniature to another person to convey message.	• Handing a small car to an adult to request going for a ride in the car. • Handing miniature ice cream cone to request ice cream. • Handing a small baggie of pretzels to request pretzels.
Icon Exchange	Use of pictures or picture symbols to convey messages. Student "exchanges" or hands the picture or picture symbol to another person to convey message.	• Handing a picture of a juice box to an adult to request juice. • Handing a line drawing of a swing to request going outside to swing. • Handing a picture with the color red to request red gummy bears. • Handing a picture of a person touching his head to indicate a headache. • Picture Exchange Communication System
Single Page Device with voice output that holds 4-32 messages	Use of an electronic device that shows only one page with pictures or picture symbols that can be used to convey messages. The device can hold between 1-32 messages. Each icon provided on the Single Board device has a corresponding recording that provides voice output. Student presses a button on the Single Board device to convey the message.	• Go Talk • Tech Talk/Speak Devices
Touch Screen Device using communication apps, may have voice output (i.e. tablet, smart phone)	Use of a Touch Screen device such as a tablet or smart phone that uses an Android or iOS operating system. Communication apps are used to provide a number of options for the student to convey the message using pictures, picture symbols, text, and/or voice output.	• Tablet (e.g., iPad,) • Smart Phone (e.g., Android, iPhone) • Other Device (e.g., iPod, iTouch)
Multiple Page Device with voice output and access to **unlimited** icons for novel messages	Use of an electronic device that operates on a Windows operating system with access to 500+ icons that can be combined to create novel messages. Each icon has a corresponding recording that provides voice output. Student presses a button on the device to convey the message.	• Maestro • Vmax+ • M3 • Xpress • Novachat
Multiple Page Device with voice output, access to **unlimited** icons, and semantically compact, intuitive language (i.e. **Unity** Language)	Use of an electronic device that operates using Unity language. Unity is a unique language system used to represent language in an AAC device. It uses a small set of easy-to-recognize pictures combined in short sequences to produce words, phrases, and sentences. Voice output is provided. Student presses a button on the device to convey the message.	• Springboard • Vantage • Accent 800 • Accent 1000

Additional Support

In the event the team requires additional support and assistance to make a determination about the AAC system to implement, consider the following steps:

1. Utilize other resources to help make a determination. They include, but are not limited to:

   a. The Virginia Department of Education's Training and Technical Assistance Centers' Assistive Technology Network - This website provides information about Assistive Technology (AT), including AAC. It provides information regarding legal components as well as tools to assist in implementation and evaluation. http://ttac-atsdp.gmu.edu/nav02.asp

   b. Special Education Technology-British Columbia (SET-BC) – This document, titled, AAC Device Feature Comparison, provides a comparison of features of low tech and high tech communication systems. http://www.setbc.org/Download/LearningCentre/Communication/AAC_Feature_Grid_HighTech_2008.pdf

   c. AAC TechConnect – This website provides a number of tools to guide teams through decision making. This web site provides pictures of speech generating devices and includes contact information for major AAC device manufacturers and their product information and brochures. http://www.aactechconnect.com/dashboard/content/files/1407.pdf

   d. AAC TechConnect – This website provides many resources to give assistance to educational teams regarding system features. It provides comparisons among several devices and apps. http://www.aactechconnect.com/

   e. Dynamic Therapy Associates, Inc. – This website provides information related to communication aids and software manufacturers and provides tools to assist teams in evaluating communication system options. http://www.mydynamictherapy.com/resources/commaids/

   f. Augmentative and Alternative Communication at the University of Washington – This website provides information and tools to assist teams in evaluating communication system options http://depts.washington.edu/augcomm/index.htm

   g. Georgia Project for Assistive Technology – This website provides information about Assistive Technology (AT), including AAC. It provides information regarding legal components as well as tools to assist in implementation and evaluation. http://www.gpat.org

2. Contact the Assistive Technology (AT) specialist for the LEA to discuss the results of the inventory and/or determine whether a formal assessment is required.

3. Contact local community agencies that offer assessments in AAC and/or AT to discuss the results of the inventory and/or determine whether a formal assessment is required.

4. Contact the Virginia Commonwealth University Autism Center for Excellence to discuss the results of the inventory and/or determine whether a formal assessment is required. Please email: autismcenter@vcu.edu

Augmentative and Alternative Communication System Feature Analysis Development

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If a student is receiving services under IDEA, decisions about assessment and the student's plan must be made by the IEP team and must follow all applicable special education laws and regulations.